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## Computer-based Instruction Authoring Tools System (CATS): Student Guide

Vel N. Hulton  
Michael R. Flaningam  
Barbara Tarker  
Ann Rybowiak  
Susan Sulzbach  
Mark Lyon  
Brian Thomason

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Vel N. Hulton

Michael R. Flanigan

Barbara Tarker

Ann Rybowiak

Navy Personnel Research and Development Center

and

Susan Sulzbach

Mark Lyon

Brian Thomason

Systems Engineering Associates, San Diego

Reviewed and released by

Steven L. Dockstader

Director, Organizational Systems Department

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13. ABSTRACT (Maximum 200 words) This publication is one of three technical notes that supplement the CATS (Computer-Based Instruction <u>Authoring Tools System</u> ) user's manual. This guide is intended for students who are taking the computer-based version of the Defense Systems Management College's Funds Management and Tools for Program Management lessons. The objective of this effort was to provide instructions for the use of the disks that the students are given to run each lesson.			
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## FOREWORD

This guide is intended for students who are taking the computer-based version of the Defense Systems Management College's Funds Management (FM) and Tools for Program Management (TPM) lessons. The FM and TPM lessons were developed by the Navy Personnel Research and Development Center using the Computer-Based Instruction Authoring Tools System (CATS). Emphasis here is on the use of disks that students use to run each lesson.

CATS is a government-owned set of software tools for constructing and presenting interactive courseware on a personal computer. It was developed by Systems Engineering Associates (SEA), San Diego, through a series of contracts with the Navy Personnel Research and Development Center (NAVPERSRANDCEN). CATS has continued to evolve because of the relative ease with which a government-owned system can be modified and enhanced to meet needs of new government projects.

This publication is one of three technical notes that supplement the user's manual (NPRDC Tech. Note 90-27). One of the three focuses on lesson presentation using a software program called Lesson Manager (NPRDC Tech. Note 90-28). A second report, this document, directs students in running the lessons without the use of this special software. The final report addresses the maintenance system, that is, the updating of lesson files (NPRDC Tech. Note 90-30). Intended readers of the user's manual and the maintenance system report are instructional developers who are experienced computer users and CATS authors. Intended readers of the Lesson Manager system report and the student guide are courseware administrators and, of course, students.

These three reports were prepared by SEA and NAVPERSRANDCEN as part of the Guidelines for Transportable Education and Training (GTET) project. The Joint Services Manpower and Training Systems Development Program funded the project through Program Element 0604722A. The primary objective of GTET is to develop guidelines for transportable education and training that can be used by those who wish to develop and implement transportable instructional packages. These supplemental reports support that objective.

Questions regarding this work can be directed to Dr. Michael R. Flanigan, Code 162, Organizational Systems Department, Navy Personnel Research and Development Center, (619) 553-0554 or AUTOVON 553-0554. Requests for system software should be addressed to Dr. Kirk Johnson, Code 14, Navy Personnel Research and Development Center, (619) 553-7702 or AUTOVON 553-7702.

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STEVEN L. DOCKSTADER  
Director, Organizational Systems Department



## SUMMARY

### Background

The Computer-Based Instruction Authoring Tools System (CATS) was developed under contract for the Navy Personnel Research and Development Center. The objective of this effort was to create and test low-cost computer-based instructional systems. CATS proved to be the means to that end. CATS has continued to evolve because of the relative ease with which a government-owned system can be modified and enhanced to meet the emerging needs of new government work.

### System Capabilities

CATS materials can be delivered on Zenith 100 series microcomputers and IBM PC/XT/AT-compatible microcomputers operating under MS-DOS (Microsoft disk operation system).<sup>1</sup> Materials can be authored on these same machines as well as on VAX and Sun computers operating under UNIX. Materials can be authored and compiled on one type of machine and delivered on another type. There are separate versions of the delivery software for machines with Z-100, CGA, EGA, Tecmar, and Visage graphics boards.

The system provides drivers for a Microsoft compatible mouse, a MicroTouch touch screen, and an Hitachi VIP9500 videodisc player (all are optional). Additional drivers can be developed and added to the system at minimal cost.

The courseware is controlled by a series of storyboards. The storyboard is the building block of the CATS system. It is a block of text that specifies what the computer should display in a particular screen image, how it should react to student responses to that screen image, and anything else it should do while the image is displayed. Storyboards can be written with any word processing program that can save files in an unformatted ASCII text mode. Still graphics can be developed with any graphics program, provided the graphic can be captured by Dr. Halo, a graphics software program for IBM-compatible computers. Animation can be provided by several commercial animation software packages.

CATS software does two things. First, it compiles text files, reducing them to a more compact form. This is done before the lesson is presented to the student. Second, it interprets the compiled files, creating the commands that actually control the computer while the lesson is being presented to the student.

There are no prompts or menus to aid the author during lesson development. In fact, CATS is not active while the storyboards are being written. Repetitive features of a lesson, ranging from parts of a storyboard to a series of complete storyboards, can be readily copied from one part of the lesson to another or from special templates created by the author.

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<sup>1</sup>Identification of specific equipment and software is for documentation only and does not imply endorsement.

## **Users**

The system can be used without fee by any activity of the Federal Government or by any contractor who is developing instructional materials for exclusive use by the Federal Government.

## **Documentation**

Three technical notes were written to supplement the CATS user's manual (NPRDC Tech. Note 90-27). This guide is intended for students who are taking the computer-based version of the Defense Systems Management College's Funds Management and Tools for Program Management lessons. The objective of this effort was to provide instructions for the use of the disks that the students are given to run each lesson. A second report concerns the presentation system and the use of a prototype software program called Lesson Manager to run the same lessons (NPRDC Tech. Note 90-28). A third report focuses on maintenance of CATS courseware (NPRDC Tech. Note 90-30).

## **Future Efforts**

The user's manual will continue to be revised as changes are made to CATS. Users are urged to contact either the Defense Technical Information Center, Building #5, Cameron Station, Alexandria, Virginia 22304-6145, or Code 14, Navy Personnel Research and Development Center, about updated versions.

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## INTRODUCTION

### WHO WILL USE THIS GUIDE?

This guide is for students doing lessons developed with the Computer-Based Instruction Authoring Tools System (CATS). A glossary of terms is provided at the end of the report to help the student understand basic concepts and terminology related to CATS.

### WHAT IS NEEDED TO RUN A LESSON?

#### Hardware

The lessons have been prepared to run on Zenith 100 microcomputers and on IBM PC/XT/AT-compatible computer systems that have the following:

1. A floppy disk drive
2. A hard disk drive
3. An EGA color monitor and EGA graphics board

If you are not sure about the graphics capabilities of your system, find out before proceeding. The lessons will not run without the EGA capabilities.

If you do not have the required hardware, please request the print versions of the lessons.

#### Software

The lessons are contained in the following presentation disks:

1. Disks 1, 2, 3, etc., contain the CATS presentation software and lesson presentation files.
2. The **student disks** are used for saving your place in the various lessons and to record your responses to quiz items. Each student should have his/her own student disk for **each** lesson. During the lesson, you will be instructed when and how to use your student disk.

## INSTALLING THE LESSON

If the lesson has already been installed, go to "Running the Lesson" on page 5.

The following steps for installing the lesson assume that you have prior knowledge of the computer system you are using and know basic disk operating system (DOS) procedures.

These steps need to be completed when you **first install** the lesson disks on your computer. Once the disks are installed on a computer, they do not need to be installed again.

### Notes:

1. There should be approximately 1.5 megabytes of available disk space on your hard disk drive to load and run each lesson.
2. If you have reprogrammed any of your function keys, please change them back to their original functions before using these lessons.
3. Make sure the NUM LOCK key on your keyboard is turned off.

## INSTALLING THE FIRST LESSON

If this is the **first** lesson that you are installing, use the following procedure:

1. Start up (boot) your computer system to obtain the DOS cursor on the screen.
2. Be sure you are logged on to the hard drive of your computer, usually the "c:" drive. Make a directory for the lesson. To do this, type

md directory name

and press RETURN.

For example, to make a directory called FM1, type

md FM1

and press RETURN.

3. Move into the new directory by typing

cd directory name

and press RETURN.

For example, to move into the FM1 directory, type

cd FM1

and press RETURN.

4. Insert presentation Disk 1 into the floppy disk drive.
5. Move to the floppy disk drive, usually "a:" drive, by typing  
floppy disk drive name  
and press RETURN.

For example, to move to floppy disk drive "a:", type

a:

and press RETURN.

6. Load the hard disk by typing

install hard disk drive name:

and press RETURN.

For example, if the hard disk drive is "c:", type

install c:

and press RETURN.

7. Follow the on-screen directions.

## **INSTALLING ADDITIONAL LESSONS**

If you have enough space on your hard disk, you should install each additional lesson in its own directory. For example, the procedure for installing the first lesson showed you how to install a lesson in a directory called FM1. If you had enough space in your computer, you could then make a new directory (starting again at the top-level directory, c:\) and install another lesson in that directory.

If you do not have much space available on your hard disk drive and you do not wish to save your old lesson, you can delete all the files for that particular lesson by using the following DOS command

del \*.\*

**Note: Be sure you are in the correct directory and that you don't want to save any of the files in that directory, because this command will erase all the files in the directory.**

## RUNNING THE LESSON

To run the lesson, follow these steps:

1. If you just finished installing the lesson, return to the drive that contains the lesson.

For example, to return to the "c:" drive, type

c:

and press RETURN.

2. Each time you start the lesson, make sure you are located in the directory for that lesson.

For example, one way to enter the FM1 directory (if you are in the top-level directory, c:\) is by using the "cd" (change directory) command

cd FM1

and press RETURN.

If you are somewhere other than the top-level directory, type

cd \FM1

and press RETURN.

**Note: If someone has already installed the lessons, possibly adding a special menu, check with that person for the best way to position yourself in the directory.**

3. To run the lesson from its directory, type

go

and press RETURN.

Be patient; normally, it will take a few minutes to load the lesson.

4. The computer will then prompt you to insert your student disk into drive "a:".
5. After loading the student disk, the computer will provide instructions.

### Notes:

1. You must insert the appropriate student disk each time you want to run a lesson. You must also have the student disk in the floppy disk drive when you want to exit a lesson.

2. If the program unexpectedly drops you during a lesson, follow the directions on the screen. This usually will mean pressing the SPACEBAR or possibly pressing a for "abort." If this happens, just begin the lesson again by typing go. Inform your lesson facilitator or coordinator of the problem and tell him/her the last page you remember seeing in the lesson. This may help the facilitator fix the problem.

If these procedures do not work for you, contact your lesson facilitator or coordinator.

## GLOSSARY

To avoid ambiguity, key terms associated with the CATS student system are defined below. These definitions have been adapted specifically for this document. They may therefore be more restrictive than, or different from, commonly accepted definitions for these terms.

**Authoring tool(s) or authoring system**

A software program (or programs) designed to produce and maintain CBI, e.g., CATS.

**CATS**

Computer-Based Instruction Authoring Tools System. A Government-owned authoring system.

**CBI**

Computer-based instruction. Instruction or training delivered on a computer. Sometimes referred to as computer-assisted learning (CAL) or computer-assisted instruction (CAI).

**Presentation disk**

A presentation disk contains the presentation files, or a subset of the presentation files, used to present CBI. Presentation disks contain the CATS presentation software, lesson segment files, profile files, graphic files, and animation files. One of the presentation disks contains only the profile files. This disk is called the student disk.

**Presentation files**

All of the computer files required to present CBI. Includes CATS presentation software, lesson segment files, profile files, DIR files, graphic files, and animation files. (Note: Graphic files and animation files are also source files.)

**Presentation software**

A software program that presents CBI. For example, the CATS presentation program for your lessons are called ega.exe.

**Segment file (or Segment)**

A presentation file produced by CATSC that is an encoded and compressed version of a storyboard file or a collection of storyboard files.

**Source files**

Source files are computer files used to create and maintain CBI using CATS. Storyboard files, graphic files, animation files, batch files, and CATS variable files are source files. (Note: Graphic and animation files are also presentation files.)

**Storyboard**

A description of one screen and/or one operator interaction in CATS courseware. Storyboards are stored in storyboard files.

**Storyboard file**

An ASCII file that contains one or more storyboards and is made using a text editor or word processor. Storyboard files are source files and contain the basic building blocks of the lesson.

They contain information that controls what the student sees on the screen, how the CBI will react to student responses, what data are collected by the CBI, and the lesson support files used by the CBI.

### **Student disk**

A student disk is a presentation disk that contains only the profile files (i.e., PROFILE.CAT and PROFILE.FIX files). Each student needs his or her own copy of this disk to run each lesson. A student disk is used as a repository for individual student data. The PROFILE.CAT File on an individual student disk will be updated automatically to reflect the student's progress during the student's use of the lesson.

## **DISTRIBUTION LIST**

Assistant for Planning and Technical Development (OP-01B2)  
Defense Technical Information Center (2)  
Commandant, Defense Systems Management College, Ft. Belvoir, VA  
Assistant Secretary of Defense (Force Management and Personnel)